National War College

If Clausewitz had SCUDS

or

How the Masters Would Have fought Ballistic Missiles

Michael P. Locke

Class of 1999

Course 5602

Seminar D

2 November, 1998

Col Bob Dodt

Faculty Leader

Report Documentation Page

Form Approved
OMB No. 0704-0188

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
02 NOV 1998		**02-11-1998 to 02-11-1998**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
If Clausewitz had SCUDS or How the Masters Would Have Fought Ballistic Missiles	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **National War College,300 5th Avenue,Fort Lesley J. McNair,Washington,DC,20319-6000**	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution unlimited

13. SUPPLEMENTARY NOTES

14. ABSTRACT
see report

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			
unclassified	**unclassified**	**unclassified**		**10**	

If Clausewitz had SCUDS...

Or

How the Masters would have fought ballistic missiles

Scenario: March 2005

The National Military Command Center was on the secure line to the White House. "Mr. President," the Brigadier General in charge of the evening shift began, "we have confirmed launch of five submarine launched ballistic missiles, all tracking towards Washington." There was a burst of static as the Secret Service traded the President's desk phone for a secure portable model, as they whisked him towards Air Force One. "Are these nukes?" the President crackled into the Duty Officer's ear. "When will they hit?" "We estimate in about four minutes Sir", the Duty Officer answered over the shouts and confusion in his Operation Center, and the spin-up of rotors as the First Family lifted off "It is our belief that each missile carries 5-10 independently targeted warheads, with a yield between five and twenty megatons." "My God", choked the President, "what does that mean for casualties?" "It is our belief, Sir", came the reply, "that casualties will be virtually 100%. If only half of those warheads hit their targets, Washington DC will cease to exist."

The thesis of this paper is simply that a revolution in military affairs has occurred with the advent of ballistic missiles, and that means something quite important. With thirty nations now in the "missile club", many of whom have active nuclear, biological and/or chemical programs, national strategists need to take a hard, dispassionate, non-partisan look at what these events mean to national security, military planning, and the future of our nation. To aid us in this quest, I have enlisted the assistance of Carl Von Clausewitz, who will apply his mastery of strategy to this emerging threat.

The Past

To begin, it is necessary to look back, and chronicle briefly how ballistic missiles arrived in our consciousness, and what we did when they arrived

The first true military application of ballistic missiles occurred 12 June 1945, when Adolph Hitler launched ten V1 Rockets against London. Only four actually reached London, and those four did relatively little damage. The British public assured itself that V1's were not a threat, and potentially were even a hoax. Yet on 18 June a mass attack saw the 440 mph, 4,000 pound warhead rockets landing at 5-minute intervals, only blocks from 10 Downing Street 80 were killed and 120 wounded – Churchill evacuated Parliament for the duration of the War.[1] Over 1 million people were evacuated from London, which by the end of the war had suffered 2400 V1 attacks and over 500 of the newer, larger V2s. More than 200,000 London homes were seriously damaged or destroyed. The ballistic missile had arrived, and there was absolutely no defense

Now that doesn't mean we didn't try to defend against V1's, with what today we would call Air-Interdiction, SCUD Busting, or Attack Operations. In "Operation Crossbow", the Royal Air Force flew 30,000 sorties against V1 launch sites, successfully destroying only 65. By the time Operation Crossbow culminated with the destruction of the V2 assembly plant in Germany, 450 allied aircraft and 2900 lives had been lost to the effort. Interestingly, the British "success" in 1945 would turn out better than the US Air Force's equally dogged efforts 46 years later in the deserts of Iraq, where 2493 sorties destroyed almost no mobile SCUD launchers, and failed to fully suppress Iraq's missile efforts.[2]

But before we look at the ballistic missile fight in Desert Shield and Storm, lets examine another war that we watched very closely, yet missed something fundamental.

Iran and Iraq fought a bloody war for more than eight years, beginning in 1980. Initially ballistic missiles played no role, yet Iraq aggressively pursued SCUD development, with early missiles being little more or better than their V1 grandfather But by 1988, Iraq was ready – during the "War of the Cities", Iraq launched more than 115 SCUD B's into Tehran. The result was dramatic – more than a quarter of Tehran's 8 million population fled the city. Iran learned an important lesson about terror, and immediately energized its own ballistic missile program.

---

[1] David Eisenhower, *Eisenhower at War 1943-1945* (Vintage Books, NY, 1986) p 300

[2] Department of the Air Force, Reaching Globally, Reaching Powerfully The US Air Force in the Gulf War, Sep 1991, p 24

The air is filled with hissing bullets that sound like a sharp crack if they pass close to one's head. For a final shock, the sight of men being killed and mutilated moves our pounding hearts to awe and pity.[3]

In Desert Shield and Desert Storm, Iraq fired 86 SCUDS at targets in Saudi Arabia and Israel. Of the 50+ SCUDS that actually threatened a defended asset[4], all but two were successfully engaged by PATRIOT Antiballistic Missiles[5]

In the aftermath of Desert Storm we saw the creation of the Ballistic Missile Defense Organization – BMDO. BMDO evolved out of President Reagan's Strategic Defense Initiative, and had a charter to develop and field missile defense systems with a $3-$4 billion annual budget. Proof of the understanding of the threat can be found in the fact that in 1992 the US had one Theater Missile Defense (TMD) system, Patriot, but less than 3 years later eight systems from all services were in development, competing for resources and missions [6]

But the challenge facing our modern day Clausewitz is not how to procure one or more TMD systems, but rather how to fight against ballistic missiles, understanding the political, strategic, operational and even tactical implications of this new form of warfare

---

[3] Carl Von Clausewitz, On War, (Princeton, NJ Princeton University Press, 1976) p 113

[4] Several SCUDS either broke-up in flight or were determined to have a ground impact point in the desert, where no soldiers or civilians were threatened These SCUDS were not engaged

[5] The first SCUD landed in Israel on 25 Jan 1991, due to a failed manual Patriot engagement, killing 1 person The second SCUD landed in Saudi Arabia on 25 Feb 1991, and destroyed a water purification building – 28 soldiers were killed Post-war analysis determined the problem to be Patriot software related, resulting in a "blind spot" in coverage

[6] Patriot, US Army THAAD (Theater High Altitude Area Defense), US Army Medium Extended Area Defense, Navy Area Defense, Navy Theater Wide Defense, USAF Airborne Laser USAF Boost Phase Intercept Unmanned Aerial Vehicle, USAF Space Based Laser

Clausewitz begins by noting that in WWII missile defense was unlike any other form of warfare, save possibly the night attack:

> *One imagines complete confusion on one side, and on the other an attacker concerned merely to profit by it.*[7]

Indeed, there was simply no effective defense against the V-series rockets. The attacker stood safely away, and with no warning, could inflict chaos, suffering and death on a terrified populace at any time. Recognizing the emphasis Clausewitz gave to the offense, the allies applied the only offense available to them – attack of the launchers, supply routes and factories of the V-series rockets. That principle has stood the test of time and, under the title of "Attack Operations", is one of the pillars of Army TMD today.

Clausewitz next turns to intelligence:

> *The difficulty of accurate recognition constitutes one of the most serious sources of friction in war, by making things appear entirely different from what one had expected.*[8]

Clausewitz here has clearly seen the benefits of *Shared Early Warning*. If we can identify with all due speed who is shooting missiles at us, from where, and the likely impact point, we have a beginning. "Who" confirms the belligerent, for the application of all forms of National Power. "From Where" alerts our Attack Operations forces to immediately launch missions to destroy the launch vehicle. And knowing the "Impact Point" allows us to protect those populations at risk,

---

[7] Carl Von Clausewitz, On War (Princeton, NJ Princeton University Press, 1976), p 273
[8] Ibid., p 117

seek shelter, and manage the battle. Because SCUDS are often targeted against population centers, our knowledge of predicted impact points must be conveyed in near real time, via radio, loudspeakers, or digital transmission, to all affected.

Clausewitz, armed with sufficient early warning, and a robust attack operations capability, now sets off to plan the employment of actual Patriot Batteries:

> *We believe then that in our circumstances and in all similar ones, a main factor is the possession of strength at the really vital point. Usually it is the most important factor*[9]

Clausewitz has again demonstrated a critical principle on the employment of TMD systems – they must be massed to provide sufficient strength for priority assets. This runs counter to what is often our Army's "cookie cutter" tradition of trying to provide some of everything to everyone. In today's lexicon, the lesson would be: "If everybody has a little air defense, nobody has enough!" Translated into practical application, to defend a priority asset (city, Corps HQ, airbase, etc.) from missile attack, you must assign two, not one TMD units This is controversial stuff – politicians love Patriot. So does the King, Emir, President or Sultan of any nation that might be threatened by ballistic missiles. Therefore, the tendency is to spread our very limited resources across multiple claimants, applying politics to the tactical deployment calculus

[9] Ibid, p 195

The political objective – the original motive for the war – will thus determine both the military objective to be reached and the amount of effort it requires. The political object cannot, however, in itself provide the standard of measurement. [10]

Hence, Clausewitz' lesson for us here is commanders must demand the ability to provide adequate defense for assigned assets, and not let political considerations affect tactical imperatives. For anyone who needs further convincing, take the hypothetical enemy attack of five SCUDs and five tanks. In the table below I have listed the ways our nation can today destroy each target.

Ways to Defeat:

FIVE SCUD MISSILES	**FIVE TANKS**
Patriot	M1 Tanks
	TOW Missile
	Javelin Missile
	SADARM (Sense and Destroy Armor) Artillery Round
	ATACMS BAT (Army Tactical Missile System – Brilliant Anti-Armor)
	WAM – (Wide Area Munition Mine)
	Apache Longbow
	Cruise Missiles
	A10 Tankbusters
	F-15 Fighters

I've listed ten systems currently available to the warfighting commander to fight the tank battle – there are more. I've also listed every system that is available to fight SCUDS 46 years after the V1 terrorized London. My point is that

[10] Ibid., p 81

a commander can give everybody a few WAM anti-tank mines, and still have robust anti-tank capability through numerous other systems But to spread Patriot too thinly to appease politicians or local governments is to invite failure on a large scale.

To review, we have thus far concluded that ballistic missiles cause terror on a mass scale, consume tremendous attention of the commander to destroy their launchers, and can be intercepted by only one weapon system in the world today – Patriot.

Looking To The Future

For Clausewitz' final contribution to this discussion, let's look to the future of ballistic missile warfare. Although a highly controversial topic, I will maintain that tomorrow's ever larger, ever faster and significantly more accurate missiles inevitably lead us to National Missile Defense. Three nations today can reach US soil with missiles: Russia, China, and North Korea. Russia and China already have nuclear weapons, North Korea may have As more terrorists and trans-national aggressors gain access to Weapons of Mass Destruction and the ballistic missiles with which to deliver them, what can temper the boldness of our enemies?

> *Boldness will be at a disadvantage only in an encounter with deliberate caution, which may be considered bold in its own right, and is certainly just as powerful and effective; but such cases are rare* [11]

[11] Ibid, p 190

Reflect back on the scenario that opened this essay. Many believe it to be an unimaginable possibility. For those I offer that only a few years ago we believed as an absolute truth that no terrorist would ever dare attack US soil. But if Osama Bin Laden hasn't convinced you of the need, consider the "Gamble", made famous by Blaise Pascal in the 17th Century. On the question of religion, Pascal considered the penalty for gambling that there was God and being wrong (oblivion), and compared that price to the penalty of not believing in God and being wrong (eternity in Hell). If the United States gambles that we will be attacked (i.e., builds a National Missile Defense) and is wrong, no missiles will fall and we will have wasted billions of dollars. If, however, we gamble that we are safe from the possibility of attack, (i.e., do not deploy a National Missile Defense) and are wrong, the price we will pay will be infinitely higher Those who vote in Congress, those who procure weapons systems in the Pentagon, and commanders who employ Missile Defense systems in combat must learn from the past and the reflections of the masters. To fight and win, ballistic missiles cannot be considered just another component of conventional warfare, but rather as a fundamentally different weapon, with few defenses, and destructive and psychological power to change the very character of war, and (hopefully) our preparations for peace.

- LTC Michael P. Locke